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SYSTEMS INTEGRATION AND MANAGEMENT STATEMENT OF WORK
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ATTACHMENT J-7
SYSTEMS INTEGRATION AND MANAGEMENT STATEMENT OF WORK

1 SCOPE

The Contractor shall plan, implement and perform the integration and management organizations, processes, events, and products required for all procurement phases of the Integrated Deepwater System (IDS) including concept and technology development, system development and demonstration, production and deployment, operations and support, and disposal consistent with their proposed IDS solution. Except as otherwise stated herein, the Contractor shall provide all the necessary facilities, equipment, material, related administrative support, and qualified personnel required to perform the tasks defined in this Statement of Work (SOW) and in accordance with the orders issued under the contract.

The Contractor shall ensure the completion and integration of all the technical, procurement, and other tasks necessary for the design, test, construction, introduction, and support and disposal (as offered) of the various components of the IDS. The Contractor shall provide the management effort necessary to ensure the on-schedule completion of IDS project planning and execution, and shall develop and utilize a performance measurement approach to continually assess status and trends in realizing the program objectives of maximizing operational effectiveness and minimizing total ownership cost while carrying out contract tasks. The Contractor shall identify and maintain visibility of all problems and potential problems arising during contract performance that could impact the on-schedule completion of the introduction of the various components of the IDS in accordance with the implementation plan or otherwise pose risk to project cost, schedule, and performance objectives and overall project success.

While the tasking of this SOW is intended to address systems integration and management activities applicable across the IDS, many sections of this SOW are invoked by asset-specific Statement of Objectives (SOOs) attachments J-8 through J-11 as well. Aspects of the tasking described in this SOW which are only applicable when such effort is invoked by an asset task and/or delivery order are contained within brackets [...]. Requirements described within the brackets are not applicable under the basic order of this SOW.

1.1 COMPONENT PROGRAMS

As a minimum, the Contractor's Systems Integration and Management effort shall include the planning and execution of the following component programs:

- (a) Project Management
- (b) Quality Assurance
- (c) Data Management
- (d) Environmental Management
- (e) Systems Engineering
- (f) C4ISR Architecture
- (g) IDS Integrated Logistics Planning

- (h) Test & Evaluation
- (i) IDS Performance/Cost Analysis
- (j) Task and/or delivery order Planning and Development

Specific requirements for the development, conduct, and submittal of plans associated with each of these component programs are provided in Section 2.0. All such component programs and associated plans shall accommodate concurrent application to multiple procurement phases and IDS asset types. All program functions of a system-wide and systems integration nature will be implemented through this Systems Integration and Management task order. These programs and plans will be supplemented to reflect asset-specific work through the issuance of additional task and/or delivery orders developed from attachments J-8 through J-11 Statement of Objectives (SOOs) in accordance with the Contractors IDS concept. Program plans shall describe all processes proposed to meet the requirements of this Contract, and address how such processes will be validated. The requirements of this statement of work shall be incorporated into task and/or delivery orders for IDS assets, components and activities as described in these attachments unless otherwise noted in the contract or task/delivery order.

2 REQUIREMENTS

The Contractor shall execute the following tasks to develop, deliver, support and dispose in accordance with their support concept an IDS satisfying the requirements of the IDS System Performance Specifications and other contract documents.

2.1 PROJECT MANAGEMENT

The Contractor shall establish and provide the management organization, staffing, coordination, and other effort necessary to ensure effective cost, schedule, and technical performance under this contract, and assign an IDS Project Manager with overarching responsibility for Contractor performance of this effort. In addition to contract task and delivery performance management, the Contractor's management effort shall encompass the implementation, evaluation and adjustment as required of the Performance Measurement Plan. This plan shall identify the performance measurement processes and tools, including comprehensive, quantifiable, measurable and traceable performance metrics to continually assess status and trends in realizing the program objectives of maximizing operational effectiveness and minimizing total ownership cost.

The Contractor shall apply a multi-disciplinary Integrated Product and Process Development (IPPD) approach to the integrated, concurrent development of the products and the associated processes applicable to each procurement phase of the IDS and all its assets and components, and in the performance of all other efforts required by this contract.

An IPPD team shall be established consisting of Contractor and Government personnel at both Contractor and Government facilities (i.e., sharing the same building, on the same or adjacent floors). Government IPPD team members may include other Contractor personnel (e.g., support Contractors) at the discretion of the Government. The IPPD team shall be composed of persons possessing the appropriate disciplines, specialties, and functions from both Government and

Contractor organizations and shall include major subcontractors/vendors. The Contractor's team members shall possess the requisite knowledge and experience in key functional areas that they will support. The Contractor's team members shall be delegated the responsibility, authority, and accountability for decision-making and management actions necessary, at the most appropriate location, for successful performance of the contract. The team shall also seek continuous process improvement in the products and processes applicable to each procurement phase. The Contractor shall provide overall direction and guidance, track progress and status, resolve conflicts, and integrate products and services provided by subcontractors/vendors with the products and services provided by the Contractor.

The IPPD team shall interact in accordance with contract requirements and the Integrated Management Plan (IMP), and other approved plans developed and implemented through this contract. The Contractor shall establish a workflow system to facilitate communication and to reduce product cycle times between IPPD team members and other supporting activities. The Contractor shall provide the members of the IPPD team with visibility into the design, systems integration, construction, testing, logistics, and life cycle support planning effort. Through the IPPD team the Contractor shall also provide fast response access to high level project management information and development and assessment of options involving the balance of task planning, cost, schedule, performance and associated risk issues to enable Government budget development and support and project decision-making.

2.1.1 INTEGRATED MANAGEMENT PLAN (IMP)

The Contractor shall develop an Integrated Management Plan (IMP) reflecting the Contractor's management organization and approach throughout the IDS project. The IMP shall include but not be limited to:

- (a) Project Management and Project Functional Organization
- (b) Communication and coordination plans and processes for managing interaction between the Contractor and the Government, and the Contractor, subcontractors, vendors, suppliers and the Government.
- (c) Contract Work Breakdown Structure (CWBS) performance, review and approval matrix.
- (d) IPPD Team structure, principles, and workflow system including information sharing, work planning, execution, and review processes and procedures.
- (e) Subcontract management
- (f) Key Personnel Directory
- (g) Performance Measurement Plan (Reference H.24, to be appended to IMP upon finalization)

The IMP shall be kept current throughout the performance of the contract[, and updated to reflect management and organizational change resulting from the issue of orders under this contract]. All changes to the IMP (with the exception of item (e) above) are subject to Government review and approval

2.1.2 FACILITY/SUPPORT FOR IPPD TEAM

The Contractor shall provide and maintain a Systems Integration and Management (SIM) IPPD work site to accommodate Government and Contractor collocated IPPD team members including but not limited to key project management, systems integration, and product/support area liaison personnel. This site shall not be more than 25 miles from the U.S. Coast Guard Headquarters. The SIM IPPD site shall be designed and staffed to facilitate the following functions at the IDS system-level: program management control and insight; implementation plan and associated cost and operational effectiveness baseline and excursion analysis; system design and integration and coordination of asset key characteristics and interfaces; test planning and coordination; and the application and promulgation of common program procedures and processes.

The Contractor shall provide all office space, conference space, office furniture, office equipment (phone, computer network interconnectivity, computer workstations, software applications, video teleconferencing, facsimile machine, photocopy machine, office supplies, etc.), and parking facilities for Government IPPD team members at the Contractor's SIM IPPD facility [and other Contractor and major subcontractor/vendor design, production and support sites identified in the Contractor's IMP]. The furnishings and equipment provided to the collocated Government members shall be equivalent to those provided for Contractor members of the IPPD team. The computer workstations, including software applications, shall, at a minimum, be equivalent to those currently in use by the Deepwater Project Office as defined in Attachment J-18. Facility/support requirements for the IPPD team shall be in place within 30 days of task award.

The Contractor shall provide facilities/support for up to 75 Government IPPD team members at the SIM IPPD site. [The Contractor shall also provide such facilities and support for Government personnel collocated at additional Contractor and major subcontractor/vendor sites. This number of Government personnel to be collocated at Contractor and major subcontractor/vendor sites will be a function of the Contractor's proposal and the subcontracted scope of work, including up to 20 personnel per new asset design and construction site, up to 15 personnel per Legacy and/or CANDI asset modification, production and integration site, and up to 5 personnel at contracted support activity sites.]

In addition the Contractor shall identify and assign up to 6 IPPD team members to be collocated at USCG Headquarters to provide Contractor team liaison to the Government's Deepwater Project Management, Transition, and Resources and Metrics divisions within the Program Executive Office (PEO) Deepwater. The Government will provide office space, office furniture, office equipment (phone, computer network interconnectivity, computer workstations, software applications, video teleconferencing, facsimile machine, photocopy machine, etc.), for Contractor IPPD team members collocated at Coast Guard Headquarters.

2.1.3 IPPD TEAM TRAINING

The Contractor shall provide IPPD training to the Government/Contractor IPPD team. The team training shall commence within 20 days after initial approval of the Integrated Management Plan. The training shall address, at a minimum, the following topics:

- (a) Development of IPPD team Goals/Objectives;

- (b) IPPD key processes;
- (c) Development of IPPD team tools and metrics;
- (d) Earned Value Management System (EVMS);
- (e) Development of IPPD Work Site layout; and
- (f) Development of IPPD team rules of behavior

The Contractor shall provide follow-on training for transition of IPPD team members through periodic repetition of training seminars or availability training video or other self-study indoctrination materials.

2.1.4 INTEGRATED MASTER SCHEDULE (IMS)

The Contractor shall prepare and maintain an event-based Integrated Master Schedule (IMS), including detailed supplemental work schedules that depict all activities required for the performance of this Contract [including task and delivery orders as awarded]. The schedule shall include all project activities defined in the CWBS addressed below. The Contractor shall identify key events leading up to the contract milestones in the schedule and shall identify critical paths for completion of each contract milestone and key event. The schedule shall be kept current with schedule modifications and completed tasks. The schedule shall incorporate the reports and schedules shown below at a minimum. The Contractor shall ensure that consistency among all schedules is established and maintained, and that schedule interdependencies are clearly identified at all levels.

- (a) Contract milestones and key events
- (b) Projected task and delivery order preparation and award consistent with Implementation Plan
- (c) Systems integration cost/performance tradeoff work-plan and associated IDS system and integration development
- (d) System-level and integrated asset test and evaluation events
- (e) Integrated Product Data Environment development and implementation milestones and events
- (f) [Further detailed development, test, production, support, and/or disposal schedules shall be developed and appended to the IMS upon issuance of supplemental task and/or delivery orders.]

2.1.5 CONTRACT WORK BREAKDOWN STRUCTURE (CWBS)

The Contractor shall develop, extend, update, and maintain a Government-approved Contract Work Breakdown Structure (CWBS) providing clear traceability of all work. The Contractor shall use the Contractor-developed configuration baseline and may use MIL-HDBK-881, tailored as appropriate for each asset type. The CWBS shall provide visibility of all work performed by the Contractor and each major subcontractor/vendor. The CWBS shall be developed with the IDS being the first level, and program management (and other common tasks) and asset type being the second. Using this hierarchy, the CWBS for IDS assets shall be developed to the fifth

level at a minimum. The Contractor shall maintain its CWBS as the framework for reporting contract planning, budgeting, and schedule status. Contract modifications [and task and/or delivery order awards] shall be incorporated into appropriate CWBS cost accounts for work package identification, definition and procurement request relationships, as in the basic contract. During the performance of the contract, the Contractor shall not change the approved CWBS or associated definition (e.g., formal cost and schedule baselines established as a result of IBRs), or any of the reporting elements without prior written approval from the Government. The Contractor shall update the CWBS and dictionary, as necessary, and provide proposed copies to the Government.

2.1.6 EARNED VALUE MANAGEMENT AND COST REPORTING

The Contractor shall implement and conduct an Earned Value Management System (EVMS), to be applied to all task and delivery orders, and shall describe this system in an EVMS Plan. The EVMS Plan shall include documentation that the cognizant Contracting Officer has recognized that the Contractor's EVMS complies with the EVMS criteria of the Department of Defense (DoD) Final Interim Regulation 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information System (MAIS) Acquisition Programs*, or that the proposed cost/schedule control system has been accepted by the DOD. If the Contractor proposes to use a system that does not meet these requirements, the EVMS Plan shall include the Contractor's comprehensive plan for compliance with EVMS Criteria. This plan shall:

- (a) Describe the EVMS the Contractor intends to use in performance of the contract;
- (b) Distinguish between the Contractor's existing management system and modifications proposed to meet the criteria;
- (c) Describe the management system and its application in terms of the 32 EVMS criteria;
- (d) Describe the proposed procedure for administration of the criteria as applied to subcontractors; and
- (e) Provide documentation describing the process and results of any third party or self-evaluation of the system's compliance with EVMS criteria.

The Contractor shall provide information and assistance as required by the Contracting Officer to support review of the plan. The Contractor shall update the EVMS as task and/or delivery orders are issued. The Government will review task and/or delivery order-specific details of the Contractor's plan for EVMS before each task and/or delivery order issue.

The Contractor shall identify the major subcontractors, or major subcontracted effort if major subcontractors have not been selected, planned for application of the criteria. The Contractor and the Government shall agree to subcontractors selected for application of the EVMS criteria.

The Contractor shall conduct an Integrated Baseline Review (IBR) to establish formal cost and schedule baselines in accordance with the Contractor's EVM plan and to validate the Contractor's procedures for using EVM for planning and control, and for reporting timely, accurate, and reliable contract status. The Contractor shall demonstrate to the Government that it has adequately established a reliable contract performance measurement baseline. The IBR shall

be conducted at the Contractor's facility, within 6 months after this [and all other] task and/or delivery order award.

The Contractor shall provide Cost Performance Reports (CPR) monthly beginning 60 days after approval of the plan for compliance with EVMS criteria. The CPR shall provide visibility to the CWBS. The Contractor shall assign resources to the CWBS at the work/planning package level, which is that level at which earned value is determined, schedule is assessed or the critical path is determined.

2.1.7 PROGRAM SECURITY

2.1.7.1 Industrial Security

Security requirements for the Integrated Deepwater System apply to engineering and operational data as well as classified hardware and software. The Contractor shall implement and maintain security procedures and controls to prevent unauthorized disclosure of classified information and to control authorized distribution of classified information in accordance with the National Industrial Security Program Operating Manual (NISPOM). Program-specific security classification requirements and authorizations are contained in the Contract Security Classification Specification, DD Form 254, attachment J-16.

2.1.7.2 Operations Security (OPSEC)

The Contractor shall develop, implement, and maintain an OPSEC program to protect classified and sensitive unclassified activities, information, equipment, and material used or developed by the Contractor and any subcontractor during performance of the contract. The Contractor shall be responsible for the subcontractor implementation of the OPSEC requirements. This program includes Information Assurance, Communications Security (COMSEC) and Automated Information Systems (AIS) security. The OPSEC program shall be in accordance with National Security Decision Directive (NSDD) 298, and at a minimum shall include:

- (a) Assignment of responsibility for OPSEC direction and implementation.
- (b) Issuance of procedures and planning guidance for the use of OPSEC techniques to identify vulnerabilities and apply applicable countermeasures.
- (c) Establishment of OPSEC education and awareness training.
- (d) Provisions for management, annual review, and evaluation of OPSEC programs.
- (e) Flow down of OPSEC requirements to subcontractors when applicable.

2.1.8 RISK MANAGEMENT

The Contractor shall establish, implement and maintain a risk management system to identify, analyze, mitigate, report, and track all critical project risks. The Contractor's risk management systems shall include at a minimum processes for risk identification, risk categorization, assessment of impact on total ownership cost, schedule, and performance (technical), mitigation action identification, mitigation implementation, mitigation funding impact assessment, and the

periodic risk management reviews. Risk management processes shall reflect the IPPD environment by providing for visibility to and input from Government IPPD team members. The risk management system shall be described in a Risk Management Plan. Status and results of risk management initiatives will be provided as a part of all programmatic and technical reviews.

2.1.9 PROGRAMMATIC REVIEWS

The Contractor shall host all manner of reviews required by this SOW [and other task and/or delivery orders]. For all such reviews the Contractor shall provide meeting facilities and meeting support. Meeting support includes, but is not limited to, identification of suitable review location (subject to Government approval), preparation of agenda, preparation and presentation of presentation materials, and preparation of minutes of the meeting. The Contractor shall provide the Government with draft versions of the proposed presentation materials in advance of the meeting to allow project staff preview to enable substantive comments during presentation.

2.1.9.1 *Post Award Conferences (PAC)*

The Government will, at its option, conduct a post-award conference within 30 days of the effective date of this order. The conference will be held at the Contractor's SIM facility. As a part of the Post Award Conference, the Contractor shall provide a Cost Management System Review demonstrating the implementation of a validated cost/schedule control system. Other topics will include, but not be limited to, documentation review, the Contractor's understanding of the technical requirements, and schedule considerations. The post award conference is intended to aid both the Government and the Contractor personnel in achieving a clear understanding of all contract requirements, and identifying and resolving potential problems. The post-award conference will not substitute for the Contractor's full understanding of the work at the time offers are submitted, nor is it to be used to alter the final agreement arrived at in any negotiations leading to contract/task/delivery order award. It is not the purpose of the post award conference to change the contract. [At the option of the Government, Post Award Conferences shall be scheduled for Asset task and/or delivery orders.]

2.1.9.2 *Project Management Reviews (PMR)*

The Contractor shall conduct PMR meetings on a quarterly basis. The PMR may be conducted in conjunction with other major technical reviews. During these reviews, the Contractor shall present the status and performance (technical, financial, and schedule) of their total systems integration [and Asset task and delivery order] responsibilities, as well as associated problem areas and recommended corrective actions. During the PMRs, deviations to the project plan (including changes in assessed risk levels) shall be addressed, including the rationale for the change. Alternative and recommended responses shall be identified as appropriate. The topics for presentation and discussion at the PMR shall include but are not limited to:

- (a) Overall cost, schedule, and technical performance status of the project (including subcontractor efforts) using earned value as an integrating tool for addressing contract status; including at a minimum:
 - (1) A brief overview and status of the project, technical and logistics supportability objectives, and the feasibility of attaining them;

- (2) Status of Contractor-performed logistics processes, products and tasks
 - (3) Updated master schedules;
 - (4) Risk of missing milestones;
 - (5) Master critical path analysis and work-arounds performed as needed;
 - (6) Formal change proposals to the system design;
 - (7) Summary of results from last PMR and objectives for the next PMR; and
 - (8) Summary project cost/financial data.
- (b) Status of each CWBS element selected by the Government for presentation, including as a minimum:
- (1) Planned accomplishments since the last PMR, including those that were not met;
 - (2) CWBS element cost and schedule status, including a review of the critical path and high-risk tasks; and
 - (3) Planned accomplishments towards the next PMR.
- (c) Review of System Operational Effectiveness performance and projections.
- (d) Status and results of technical coordination meetings.
- (e) Status and discussion of all outstanding action items resulting from previous PMRs, technical reviews, technical coordination meetings, and additional proposed action items.
- (f) System safety status.
- (g) Environmental Management status
- (h) Review of budget planning activities and associated program impacts
- (i) [Identification and review of Entrance Criteria for subsequent procurement phase Asset orders if applicable.]

2.1.9.3 Technical and Design Reviews and Audits

Concurrent with the quarterly Project Management reviews, the Contractor shall present quarterly IDS system [and asset] level Technical Reviews to the Government to review the IDS design, test, production and support status and issues; results of operational effectiveness/total ownership cost tradeoff assessments; asset design status; ILS integration planning and implementation; technical risk assessment; and all manner of technical problems identified, along with recommended solutions. Technical Reviews may occur more frequently upon approval from the Government to suit shorter duration activities. The meeting support requirements described in Section 2.1.9 apply.

[Asset and phase specific design reviews and audits (interim and final (e.g., Preliminary Design Reviews, Functional Configuration Audits, etc.)) shall be planned and conducted in accordance

with specific asset design and production orders. Summaries of these review and audit accomplishments and key issues shall be included in the IDS system-level technical reviews.]

2.2 *QUALITY ASSURANCE*

2.2.1 QUALITY ASSURANCE SYSTEM

The Contractor shall provide and maintain a quality system that, at a minimum, adheres to the requirements of ANSI/ASQC Q9001-1994 Quality Systems-Model for Quality Assurance in the tasks imposed by this contract. The Contractor's system shall be described in a Quality Assurance Plan. Associated quality system procedures, planning, and all other documentation and data that comprise the quality system (e.g., indicators to be monitored and reported) shall be made available to the Government for review. Existing quality documents that meet the requirements of this contract may continue to be used. The Government may perform any necessary inspections, verifications, and evaluations to ascertain compliance with requirements and the adequacy of the implementation procedures. The Contractor shall require subcontractors to provide and maintain a quality system achieving control of the quality of the services and/or supplies provided. Major subcontractors' quality systems shall also, at a minimum, adhere to the requirements of ANSI/ASQC Q9001-1994. Establishment of requirements for and maintenance of insight into other subcontractor and vendor quality shall also be addressed in the Quality Assurance Plan. The Contractor shall conduct initial familiarization of Government personnel with their quality process, including interaction of Government and Contractor personnel and process interaction to achieve mutually desired product quality, at the PAC or initial PMR.

2.2.2 CORRECTIVE ACTION

The Contractor shall implement a unified corrective action process that integrates the quality metrics of the approved quality assurance system. It shall address all procurement phases of contract performance. Corrective action shall include evaluation of the root cause and subsequent process change to prevent reoccurrence.

The Contractor shall respond to Government-issued corrective action requests within 30 calendar days of receipt. Safety related issues shall be resolved within 7 calendar days of receipt. For safety related issues, the Contractor shall take immediate actions to rectify unsafe conditions and prevent injury or loss of life. A plan for permanently resolving safety-related issues shall be submitted within 7 calendar days of occurrence of a safety incident or receipt of a safety related corrective action request.

2.3 *DATA MANAGEMENT*

The following requirements are applicable to all manner of data developed under this contract, including but not limited to project management, design, test, production, operations and support data in the form of plans, drawings, reports, databases, records, schedules, manuals and other formats as required in the performance of contract tasks.

2.3.1 DATA DELIVERY

The Contractor shall establish and maintain a data status and indexing system for planning and status reporting of all project data and a historical record of submittals. This system shall support data developed and maintained in all hard and electronic media. For electronically stored data, this system shall provide links to both developmental deliverable versions and the final delivery version, as well as multiple revisions of the same data for different applications. The Contractor shall provide electronic deliverables in accordance with the requirements of the Contract Data Requirements List (CDRL), Attachment J-12, and this contract. Electronic media data deliverables shall be maintained in an IPDE site provided by the Contractor. (See IPDE requirements below.) The Contractor shall provide the notice by email for the official delivery of each deliverable according to a notification list proposed by the Contractor and approved by the Government. In addition to electronic delivery, the Contractor shall provide hard copies of plans, schedules, drawings, reports and other documentation as called for in the CDRL.

2.3.2 INTEGRATED PRODUCT DATA ENVIRONMENT (IPDE)

The Contractor shall provide an integrated product data environment (IPDE) to support collaborative development and cost effective support of the Integrated Deepwater System (IDS) throughout the contract. The IPDE shall augment traditional face-to-face conferences and reviews and allow digital equivalents of lists and drawings to be accessed and manipulated through databases, spreadsheets, and other automated analytic tools. The Contractor shall use the IPDE to create a virtual enterprise among the industry team, other subcontractors, vendors, and the Government. This virtual enterprise will allow geographically and organizationally separated industry and Government experts to conduct timely collaboration on designs, component tradeoff studies, schedules, and alternate support concepts via the IPDE. The IPDE will serve as the basis for communication and information exchange between the Government members, including appropriately approved Government Contractors and consultants, and the industry members of the virtual enterprise. The Contractor shall ensure that the IPDE facilitates reduction of time to support Government oversight, comment, and approval of these designs, studies, schedules, and concepts while fully complying with the Government's need to effectively administer performance of work on the contract. During development of the Phase 2 IPDE, the Contractor shall provide access to the Phase 1 IPDE and or an equivalent. Access to this IPDE shall be provided no later than 30 days after contract award. The Phase 2 IPDE shall be fully implemented no later than 180 days after contract award.

2.3.2.1 *Determine IPDE Requirements*

The Contractor shall collect, analyze, and integrate critical and high payback performance requirements into a detailed description of the Deepwater IPDE and secure Government approval of these requirements. A minimal set of currently identified requirements for the IPDE includes those discussed in the following paragraphs.

2.3.2.1.1 Data, Reports and Queries

The Contractor shall identify IPDE data, data structures, and user reports and queries (standard and non-standard). Data structures, reports and query capabilities are to be approved by the Government.

2.3.2.1.2 Limiting User Access

The Contractor shall develop methods as necessary to provide less than full access to some users of the IPDE while providing broadly useful searching and reporting services to all users. Limitations on access may be needed to protect limited rights or other business sensitive data, to protect packages of data from change by unauthorized users, or for other business or military reasons.

2.3.2.1.3 Train IPDE Users

The Contractor shall provide IPDE user training. The Contractor shall develop a cost-effective mix of classroom instruction, printed desk guides, online help. This mix of training formats should consider turnover of IPDE users.

2.3.2.1.4 IPDE User Support

The Contractor shall provide IPDE user support. The Contractor shall develop a cost effective mix of "Help Line" support, Q&A tech center support, local representatives, and other methods that promote prompt return of users to full employment of the IPDE in their work.

2.3.2.1.5 Support IDS Design and Oversight

In order to enhance the productivity of IDS design staff and oversight of the IDS project, the Contractor shall provide an IPDE that includes capabilities for data notification, teleconferencing, whiteboarding, electronic "sticky notes," and other appropriate electronic collaboration utilities that support effective IPPD practices.

2.3.2.2 *Participate in user reviews*

In order to assure productivity by members of the IDS community, the Contractor shall participate in user reviews of the data structures, standardized report layouts, and human-computer interface designs through the IPPD.

2.3.2.3 *Maintain IPDE technology*

The Contractor shall provide IPDE system updates throughout the IDS life cycle. These updates should take maximum advantage of emerging commercial technology and de facto industry standards to provide improved IPDE services at lower cost. The IPDE shall be developed in modules to facilitate these updates.

2.4 **ENVIRONMENTAL MANAGEMENT**

2.4.1 ENVIRONMENTAL PROTECTION WORKING GROUP

The Contractor shall participate in the Environmental Protection Working Group (EPWG). The EPWG shall consist of both Contractor and Government representatives and shall advise the

Contractor and the Government on environmental protection requirements implementation for the IDS and monitor Contractor environmental performance as reflected in Environmental Management Program (EMP) described below. The EPWG shall meet at each PMR and as necessary.

2.4.2 ENVIRONMENTAL MANAGEMENT PROGRAM

The Contractor shall develop, implement and maintain an EMP for the life cycle of the IDS. The EMP shall be tailored to serve both system level and asset level users. The EMP shall consist of the following elements:

2.4.2.1 *Pollution Prevention*

The Contractor shall develop, implement and maintain a Pollution Prevention Plan (PPP) consistent with the requirements in the System Performance Specification, Attachment J-1 [and asset performance specifications]. The PPP shall address the requirements for elimination or reduction of all forms of pollution to minimize environmental impacts and the life-cycle costs associated with environmental compliance. The PPP shall include Contractor efforts in the design, construction, and testing of the IDS to prevent all forms of pollution or reduce them at the source whenever feasible, including but not limited to: trade studies, equipment selection, and system design. The PPP shall include a description of the IDS [and IDS asset] design features incorporated that prevent or reduce forms of pollution during the operational and disposal phases of the IDS life cycle. The PPP shall identify the following: impacts of the system on the environment during its life (concept technology development, system development and demonstration, production and deployment, operation & support and disposal); actions needed to prevent or control the impacts, the types and amounts of pollution that will be released to the environment; environmental, safety and health (ESH) risks associated with new systems and technologies; and identification of other source reduction opportunities and alternative technologies. The PPP shall guide the Contractor in minimizing the environmental impacts and the life cycle costs associated with environmental compliance through an aggressive source reduction program. The Contractor shall require its subcontractors to comply with the provisions of the PPP.

2.4.2.2 *Environmental Protection*

The Contractor shall develop, implement and maintain an Environmental Compliance Plan (ENVCP) consistent with the requirements in the System Performance Specification, Attachment J-1 [and asset performance specifications]. The ENVCP shall describe the international, national, state and local statutory and regulatory regime, or System Performance Specification requirements with which the IDS [and assets] shall comply. In the process of maintaining the ENVCP, the Contractor shall incorporate emerging environmental requirements as they become known. It shall describe the pollution prevention and pollution control measures incorporated into the system and asset designs to enable compliance with environmental protection laws and regulations and legal requirements. The ENVCP shall include total ownership cost information used in the selection process of pollution control measures. The Contractor shall require its subcontractors to comply with the provisions of the ENVCP.

2.4.2.3 Hazardous Material Management

The Contractor shall develop and implement a Hazardous Material Management Plan (HMMP) in accordance with National Aerospace Standard (NAS) 411 and consistent with the requirements in the System Performance Specification, Attachment J-1 [and asset performance specifications]. The HMMP shall address requirements for hazardous materials and elimination, minimization, substitution, and handling of hazardous materials and potentially hazardous materials. Where a hazardous material use cannot be avoided, the Contractor shall develop and implement plans and procedures for identifying, minimizing the use of, tracking, storing, handling, packaging, transporting, and disposing of such materials and equipment. The Contractor shall require its subcontractors to comply with the provisions of the HMMP.

Contractors and their subcontractors shall minimize the use of toxic chemicals, hazardous substances, and ozone depleting chemicals for IDS construction, manufacture, maintenance, repair, operation, shipping, handling, and reclamation in the United States. An ozone depleting substance (ODS) shall not be used in the manufacture or in the parts cleaning processes associated with IDS assets in the United States. See Defense Standardization Program (DSP) website at <http://dsp.dla.mil/documents/sd-14.html> for a readily accessible list of toxic chemicals, hazardous substances, and ozone depleting chemicals.

All hazardous, or otherwise regulated, materials selected by the Contractor for use in the construction, operation, and maintenance of the IDS and its assets shall be summarized in a Hazardous Material List (HML) by IDS and asset.

2.4.2.4 Energy Conservation

During the design, construction, operation and disposal of the IDS, the Contractor shall minimize energy usage in compliance with the System Performance Specification. The Contractor shall develop and compile the baseline energy usage of all operational legacy Deepwater assets including shore tie usage and land-based C4ISR equipment energy usage. The Contractor shall maintain a collection of all applicable international and Federal laws, regulations, executive orders, etc. regarding energy usage and incorporate emerging energy requirements, as they become known. Using this collection of requirements and through consensus of the EPWG, the Contractor shall develop and maintain energy reduction goals for the IDS relative to the baseline usage. The Contractor shall develop and implement the methods (including asset design and construction as well as operational usage) by which the energy conservation goals will be met. The Contractor shall maintain an annual comparison of actual energy usage of the IDS with both the usage goals and the baseline legacy usage. The Contractor shall document their energy conservation efforts in an Energy Efficiency Plan (EEP), including but not limited to the baselines, applicable regulations, usage goals, methods for conservation, and comparison between actual use and goals and baseline usage. The documentation of the methods of energy conservation shall include the results of all trade studies where energy usage was a factor. The Contractor shall require its subcontractors to comply with the provisions of the EEP.

2.4.2.5 Environmental Impact Assessment

The Contractor shall assist the Government in the preparation/update of an environmental impact assessment for the IDS and its component assets as they are ordered, including shore logistics and C4ISR facilities. The Contractor shall provide Environmental Impact Characteristics data and information, as required, applicable to International, Federal, State, and local regulations and laws pertinent to environmental assessment of the System and its assets. This information will be required 18 months - or as early as practicable for shorter duration tasks -prior to the introduction of assets or changes to shore facilities to support the Government's development of environmental documentation under the National Environmental Policy Act (NEPA), Coastal Zone Management Act (CZMA) and other applicable laws.

2.5 SYSTEMS ENGINEERING

The Contractor shall ensure through all design, test, production and support activities that the IDS is a fully integrated system, composed of integrated and interoperable assets and other components. The Contractor shall establish and implement an IDS system engineering program to ensure the application of sound and consistent technical planning and decision processes; thorough consideration of all appropriate levels of technical detail definition and maintenance of configuration management; system-wide attention to the identification and management of all manner of critical interfaces at all levels; application of producibility and supportability considerations throughout the design process; and effective communication of engineering data across the IPPD. The Contractor shall designate an IDS systems engineering manager who will serve as the point of contact for all IDS system engineering matters. The Contractor shall ensure that accepted system engineering principles and practices are applied at the IDS system and asset design level.

The Contractor shall maintain its system engineering program for all project procurement phases. The Contractor shall review system and asset assessment reports, production data, operator feedback, and other sources of data to verify the existence of system engineering and integration problems or deficiencies and develop and implement corrective actions.

The Contractor shall document the system engineering program processes in a System Engineering Management Plan (SEMP) that shall be kept current for all procurement phases of the project.

The Contractor and all subcontractors involved in IDS software development efforts shall achieve the Software Engineering Institute (SEI) Capability Maturity Model (CMM) Level 3 or equivalent process certification for software development and/or integration, and implement and maintain the associated processes. Upon contract award, the Contractor and subcontractors' preexisting process certification or re-certification shall be no more than 24 months old. If the Contractor or subcontractors are not at level 3, the Contractor shall include in the SEMP their plans for achieving level 3 certification. The Contractor may request a waiver of this requirement from the Government for subcontractors involved in IDS software development. In addition, the Contractor shall describe in the SEMP how they will continue to improve their software process, and how they intend to develop both process and product metrics to work towards achieving SEI CMM level 4 or its equivalent.

2.5.1 CONFIGURATION MANAGEMENT

2.5.1.1 *General Requirements*

The Contractor shall establish and maintain a Configuration Control Program to ensure that all detail level work being performed under this contract is in compliance with appropriate requirements of the SPS (ATTACHMENT J-1) and established baselines. The Contractor's configuration management process shall allow for effective control of system products, processes and related documentation. Configuration management efforts shall include identifying, documenting and verifying the functional and physical characteristics of the IDS; recording the configuration of the IDS; and controlling changes to the IDS and its documentation. The configuration management process shall provide a complete audit trail of IDS decisions and design modifications to ensure that changes made in the course of development, production and operation are beneficial and are effected without adverse consequences. The Configuration Control Program shall apply to the IDS and all associated hardware and software. The Contractor shall maintain configuration management responsibility for IDS assets and their associated hardware and software until, at a minimum, the time of their delivery to the Government.

The Contractor shall prepare a Configuration Management Plan for approval by the Government. MIL-HDBK-61 may be used as general guidance in developing the plan. The Configuration Management Plan shall describe the procedures used to manage the configuration baseline and demonstrate traceability of the baseline to contract specification requirements. The Configuration Management Plan shall identify Government and Contractor responsibilities in configuration identification, control, audit, and status accounting to establish and maintain the functional, allocated, and product baselines, the transition of configuration management responsibility over the IDS lifecycle, and interfaces with legacy Coast Guard configuration management processes and procedures. For pre-production acquisition phases, the Configuration Management Plan shall describe the specific goals for the phase and identify the activities that will be pursued to achieve those goals.

2.5.1.2 *Configuration Baseline Definition*

For configuration control purposes, contractual documentation indicated by with an asterisk (*) in Section J in effect at the time of contract award shall constitute the initial contract baseline. Maturation of, and changes to this baseline shall be accomplished in accordance with the processes described in the Contractor's approved Configuration Management Plan.

2.5.1.3 *Configuration Baseline Revision*

Whenever a situation arises wherein the Contractor cannot comply with a baseline document, or whenever intent of such documentation is significantly changed by detail level documentation, the Contractor shall submit change documents to modify baseline documents to either resolve the conflict through a Request for Deviation (RFD), or to allow non-compliance through a Request for Waiver (RFW). An RFD shall provide detailed justification and consequences of approval, to include technical details explaining the degree of non-compliance with the contract document and the effect on the IDS [or asset] performance, reliability, safety, etc. Similarly, an RFW shall

provide detailed justification and documentation of how the proposed configuration departs from contract documentation, and shall include any proposed corrections or modifications to meet the intent of the contract document or mitigate disparities.

Whenever the cost of implementing a proposed change is less than \$500,000, the Contractor shall provide documentation explaining the nature of related costs as shown in the change document. Whenever the contract cost changes by more than \$500,000, the Contractor shall complete such cost and pricing data as the Contracting Officer shall require detailing all related costs and attach it to the change document. Change documentation shall be submitted to the COTR in accordance with Contractor's Configuration Management Plan.

2.5.1.4 Lifecycle Configuration Management

The configuration management practices established prior to operations and support phases, in conjunction with technical documentation developed as a result of associated asset delivery and/or task orders, shall provide for the complete and unique baseline definition of all IDS configuration items. This includes all configuration items newly introduced into the IDS by the Contractor, and all legacy IDS configuration items subsumed by Contractor developed configuration management processes and systems. This baseline shall allow for immediate transition to Coast Guard and/or Contractor lifecycle configuration management practices as described in the Contractor's Configuration Management Plan and Integrated Support Plan(s) upon introduction of the IDS, its assets and their components as fielded systems, or upon the insertion of legacy configuration items within newly developed configuration management systems and processes.

2.5.2 TECHNOLOGY REFRESHMENT

The Contractor shall implement a technology refreshment program to ensure that Contractor furnished assets, subsystems, equipment, and software do not become technologically obsolete during the IDS lifetime. Continued technology suitability shall be assessed considering at a minimum the following criteria:

- (a) Whether the product is no longer in production, or whether the product is expected to be phased out of production by the original equipment manufacturer
- (b) Whether the product is no longer commercially supported, or whether suppliers are intending to phase out commercial support
- (c) Whether the products' maintenance costs exceed replacement costs with updated technology/products
- (d) Whether changes in environmental regulations result in IDS system or subsystem non-compliance with international, national, state or local regulations
- (e) Whether Coast Guard Deepwater mission changes introduce the need for new or different capabilities
- (f) Whether baseline IDS technology proves to be ineffective

- (g) Whether significant performance gain (operational and/or support) can be realized due to updated or alternate applications of technology/product offerings

The Contractor shall assess the benefits and costs of modularity and/or standard interfaces, and define a strategy and a level of modularity that provides the optimal performance/cost/risk results over the life of the IDS. The Contractor shall develop a Technology Refreshment Plan and methodology that cyclically assesses best and most achievable technology refresh based upon continuing evaluation of operational effectiveness and other Coast Guard priorities. The Contractor shall evaluate commonality, interoperability and/or standard interfaces and technology refreshment for all assets and systems, with special emphasis on a reasoned strategy in C4ISR architecture, avionics, and other electronics systems, due to interface complexities and the high rate of related technology change.

The Contractor shall specifically identify those initiatives that will increase the cost of contract performance or significantly impact any aspect of system performance or supportability. Technology refreshment will be implemented through the development of task and/or delivery orders as outlined in Section 2.10 of this statement of work. The cost for replacement of obsolescent components during construction which do not change the contract baseline will be borne by the Contractor under the asset production order.

2.6 C4ISR ARCHITECTURE

The Contractor shall enact a C4ISR Architecture Program to ensure the effective contribution of robust and integrated C4ISR systems and capabilities to the achievement of IDS objectives. The Contractor shall describe this program in a C4ISR Architecture Plan. The C4ISR Architecture Plan shall describe the Contractor's process for transitioning from the legacy C4ISR architecture to the proposed C4ISR IDS and assets architectures, and from these architectures into individual C4ISR asset design, development, production and life cycle support. The C4ISR Architecture Plan shall provide high-level insight into the rationale and dependencies for the planned sequence of implementation for C4ISR assets presented in the IDS Implementation Plan. As a part of C4ISR architecture planning, the Contractor shall develop and maintain C4ISR architectures; conduct C4ISR spectrum, network, and bandwidth management analyses; and consider the design principles of CANDI, open systems, and modular systems as described below, and document the results in the C4ISR Architecture Plan. The Contractor shall designate a C4ISR System Architect. [The C4ISR Architecture Plan shall be updated and revised with each issued C4ISR Task or Delivery Order.]

2.6.1 IDS AND ASSET C4ISR ARCHITECTURES

The Contractor shall develop and maintain C4ISR Architectures for the IDS including surface, air, logistics and C4ISR assets in accordance with the DOD C4ISR Architecture Framework.

2.6.2 INFORMATION ASSURANCE

The Contractor shall propose a framework to predict the information assurance attributes of the C4ISR IDS and Asset Architectures. This framework shall permit systematic assessments of the

information assurance properties of the proposed IDS C4ISR systems and modification to legacy systems.

2.6.3 DATA INTEGRATION AND FUSION

The C4ISR Architecture Plan shall describe the Contractor's approach to data fusion. Where appropriate, data will be seamlessly integrated from disparate sources (sensors, computational reports, user goals, and fusion engines) at the lowest possible level so that differences in resolution and coverage treatment of a theme, character, and artifacts of data collection methods are eliminated. Sufficient data shall be consolidated or fused with minimal watchstander/operator intervention so as to enable the creation of common operational and tactical pictures, as well as common logistics and administrative information. Where appropriate, information from sensors, subsystems, asset or application components should be distributed and re-used in a modular, integrated manner to eliminate redundant or stovepipe architectures.

2.6.4 INTEROPERABILITY

The C4ISR Architecture Plan shall describe the Contractor's approach for creating C4ISR System Interoperability Performance Objectives, compliance goals, standards, and benchmarks to be employed. Where applicable, the plan shall address levels of compliance with the Coast Guard Common Operating Environment (CG COE), the Defense Information Infrastructure Common Operating Environment (DII COE), the National Information Infrastructure (NII), the Global Information Infrastructure and Grid (GII and GIG), and the Navy's IT-21 architecture. It is stressed that IDS Command and Control (C2) systems shall be DII COE compliant to the maximum level possible while ensuring interoperability with other Coast Guard and other Government agency systems. The Contractor shall specify the level of DII COE compliance for each proposed IDS C2 system in the system design documentation and provide a summary at the technical reviews. If the Contractor specifies a C2 system that is below DII COE level 5 compliance, Contractor shall explain the performance and cost tradeoffs made in selecting the specified solution vice using existing GOTS/COTS level 5+ compliant systems with newly developed software.

The Contractor shall pursue interoperable, integrated, and cost-effective business practices and capabilities with respect to IT as required by the Information Technology Management Reform Act (ITMRA), also known as the Clinger-Cohen Act of 1996 and the Government Performance and Results Act of 1993 (GPRA). The Contractor shall identify a method or tool to measure interoperability between agencies, assets, systems, and subassemblies. The results of the testing will be provided to the government for review.

To facilitate defining required levels of interoperability, the Contractor shall define a system's roles, missions, high-level operational concepts (obtained from the Operational Requirements Document (ORD)), operational architectures, types and attributes of information needed, interfaces and information exchanges. For each external interface, the Contractor shall provide information regarding Activities, organizations, or activities involved; networks or other means used to exchange information; transmission types (i.e. Landline, line-of-sight (LOS) communications, satellite communications); communication needs (spectrum certification, bandwidth requirements, supportability); databases and software; and critical interfaces. Specific

IERs should be identified, including at a minimum all top-level IERs drawn from the ORD. IERs should be identified using the OV-3 (Operational Information Exchange Matrix).

2.6.5 RADIO FREQUENCY SPECTRUM MANAGEMENT

As part of the C4ISR Architecture management process, the Contractor shall address Radio Frequency (RF) spectrum management including use of the RF spectrum and forecasting additional needed RF spectrum capacity. The C4ISR Architecture Plan shall identify any C4ISR system that will require new Coast Guard authorization to transmit in the RF spectrum. The Contractor shall begin to consider frequency management when preparing the C4ISR architectures, early in the asset development life-cycle, due to the 2-4 year lead time for spectrum authorization requests. The Contractor shall process on behalf of the Government necessary requests for RF spectrum additions or modifications required for implementation of the IDS.

2.6.6 NETWORK AND BANDWIDTH MANAGEMENT

Considering the Government's information technology implementation and migration strategy, the Contractor shall implement as part of the C4ISR Architecture Plan a methodology to manage applicable Coast Guard's Deepwater networks, computer systems, databases, legacy data migration, and other computer resources and support facilities. The Contractor shall provide processes and plans to manage the Coast Guard's Deepwater bandwidth requirements and cost drivers associated with necessary technology improvements to the network, computer systems, and related technology infrastructure. The Contractor shall provide recommendations based on research, analysis, and system design for network and bandwidth management, indicating any responsibility boundaries.

2.6.7 COMMERCIAL AND NON-DEVELOPMENTAL ITEMS (CANDI)

The Contractor shall incorporate CANDI hardware and software products into their IDS and asset development as appropriate. The C4ISR Architecture Plan shall specifically describe the Contractor's approach for leveraging Commercial-Off-The-Shelf (COTS), Government-Off-The-Shelf (GOTS) and Non-Developmental Items (NDI).

2.6.8 OPEN SYSTEMS

The C4ISR Architecture Plan shall describe the Contractor's approach for managing open systems requirements. The Contractor shall consider utilization of open systems principles and design as an aid to modernization upgrades and mitigation of problems associated with diminishing manufacturing sources.

2.6.9 MODULAR SYSTEMS

The C4ISR Architecture Plan shall describe the Contractor's approach for the implementing modular systems during IDS development. The Contractor shall consider utilization of modular systems principles and design as an aid to modernization upgrades and mitigation of problems associated with diminishing manufacturing sources. The plan shall address methods for

identifying modular systems interfaces (e.g., mechanical, electrical, communications and control) and defining the characteristics of, and specifications for, those interfaces. It shall also describe methods to provide isolation layers to segregate hardware processing functions from software applications.

2.6.10 SURVIVABILITY ANALYSIS

The Contractor shall analyze and describe the survivability attributes of the C4ISR architecture(s). C4ISR Architecture survivability defines the degree of assurance that C4ISR systems will continue to function during and after a natural or man-made disturbance; e.g. battle damage. At a minimum, the Contractor's analysis shall consider the range of conditions over which C4ISR systems will survive and the minimum acceptable level of post-disturbance functionality.

2.7 LOGISTICS

The Contractor shall designate an Integrated Logistics Support (ILS) manager who will serve as the point of contact for all IDS ILS matters. ILS principles and practices shall be coordinated and applied at the IDS system [and Asset] design level. The Contractor shall execute the system level logistics development, design, production, implementation and disposal tasks of the system level Logistics Requirements Matrix, Attachment J-20a. [Asset-specific ILS development and services are to be defined through the applicable Asset SOO, Attachment J-8 through J-11.]

2.8 TEST AND EVALUATION

2.8.1 GENERAL REQUIREMENTS

The Contractor shall establish a T&E program structured to integrate all subordinate T&E functions such as Developmental Test and Evaluation (DT&E), Operational Test and Evaluation (OT&E), modeling and simulation, requirements validation, scheduling, planning, and execution as an efficient continuum. All such activities shall be part of a strategy to: reduce and mitigate risk; provide empirical data to validate models and simulations; provide evidence of the attainment of IDS technical performance; and specify the level of IDS and its assets, systems, equipment, components and their associated logistics systems' operational effectiveness and suitability. The T&E program shall be designed in accordance with the framework of the IDS Test and Evaluation Master Plan (TEMP) (Attachment J-28) and the requirements of this section (2.8) of the SOW. The Contractor shall provide T&E program management, program planning, and review documentation in accordance with the requirements below. Unless specified otherwise, the Contractor will be responsible for the conduct, reporting, and certification of all IDS and asset DT&E, with Government oversight, necessary to demonstrate compliance with system performance specifications and mission requirements and in accordance with the specific requirements below. The Government may also employ independent and advisory services to assess the T&E program. All Contractor prepared test plans, procedures, and reports may be reviewed by this advisor. Unless specified otherwise, the Contractor shall furnish all material, fuel, labor, power, equipment, and instruments necessary to perform the tests. The Contractor shall ensure that instruments used in performing tests are calibrated prior to the tests by a certified testing laboratory. The Government shall be afforded the opportunity to witness each

IDS, asset, system, equipment, and component test performed by the Contractor. The Contractor shall notify the Government within a sufficient timeframe in order for a Government representative(s) to plan for and travel to the test site/facility.

2.8.2 PLANNING REQUIREMENTS

Contractor T&E planning shall address the IDS and its assets, asset systems, equipment, components (hardware, software, and human interfaces) and their associated logistics systems that are critical to the achievement and demonstration of technical performance specifications, operational effectiveness, and operational suitability. It shall address effectiveness, suitability, and performance factors with appropriate quantitative and qualitative criteria, test event and/or scenario descriptions, and resource requirements (e.g., special instrumentation, test articles).

2.8.2.1 T&E Program Plan (TEPP)

The Contractor shall develop a Test & Evaluation Program Plan (TEPP) to demonstrate compliance with IDS and its asset technical, operational, and performance requirements. The plan shall include and address all tests, schedules, and resources required to be performed by the Government, Contractor, and subcontractors to ensure all T&E activities are: coordinated and integrated with the IMS; properly time phased; and provided adequate resources. It will identify Government, Contractor (and subcontractor) roles, responsibilities and authority for all tests, and assist Contractor and Government personnel in identifying risk areas as well as duplicative or missing test activities. The TEPP shall also include the Requirement Verification Cross-Reference Table of the SPS (Attachment J-1) (SPS Section 4, Table 1) and verification requirements identified in all asset specifications, identifying the method of verification (analysis, demonstration, examination, test) to be used for each specification requirement. The Contractor shall further describe the proposed verification methods identified in the Verification Cross-Reference Tables to include a description of the specific types, methods and tools of analysis, demonstration, examination, and test to be conducted. [Individual annexes for ILS, C4ISR, Surface and Air asset testing will be added to the IDS TEPP upon asset delivery and or task order award.]

2.8.3 REVIEW REQUIREMENTS

The Contractor shall summarize T&E strategies, plans, schedules, and data during all technical reviews and configuration audits performed on the IDS and assets, systems, equipment, components and their associated logistics systems. Material shall be reviewed to ensure that all T&E performed is traceable to and demonstrates conformance with technical, operational, and performance requirements. Status for proposed verification methods identified in the SPS (Attachment J-1) and asset performance specifications (attachments J-3 through J-6) shall be identified as planned, underway, or completed. The Contractor shall describe the quantitative and qualitative relationship of planned and completed test events to IDS mission performance. Existing documentation (technical orders, commercial manuals, etc.) for Commercial and Non-Developmental Items (CANDI), results of testing performed, identification of testing proposed (including integration) and copies of Contractor specifications used to procure CANDI shall be made available for review upon request. The Contractor shall describe any services, facilities, special simulation, data reduction, or utility tools, and test data, test computer software, or

calibration and diagnostic software that are not deliverable under the terms of the contract, but which are planned for use during (long and/or short term) testing.

2.8.4 T&E REQUIREMENTS

The Contractor shall conduct and support IDS and Asset DT&E and OT&E as described below, and prepare test plans, procedures, and reports and assessment plans and reports for IDS and Asset DT&E and OT&E in accordance with the corresponding CDRL item, unless specified otherwise in attachments J-8 through J-11.

2.8.4.1 *Developmental Test and Evaluation (DT&E)*

2.8.4.1.1 DT&E Program Requirements

DT&E testing shall demonstrate that the IDS, assets, systems, equipment, components and their associated logistics systems meet technical requirements in performance, reliability, maintainability, availability, logistic supportability, compatibility, interoperability, safety, facilities, and human factors throughout the range of environmental factors prescribed in the System Performance Specification (Attachment J-1) and all other asset specifications. Testing shall consider IDS performance within the IDS CONOPS (Attachment J-17) and asset performance as identified in asset performance (Attachments J-3 through J-6) and detailed design specifications. The Contractor shall provide individual detailed test plans, schedules, procedures, resources, and reports for the IDS, assets, and asset systems, equipment, components and their associated logistics systems. Test procedures shall include the full range of operations necessary to stress the system in addition to light-off, normal, emergency and diagnostic procedures identified in the equipment or system technical manuals. The Contractor shall be responsible for conducting all ILS, C4ISR, Surface, and Air asset tests in accordance with the test plans. Available final or preliminary operational and technical manuals shall be available and used during the tests. The Contractor shall coordinate use of test facilities and services to ensure availability, scheduling, and lead time of personnel and facilities. The concept of combined IDS and asset Developmental Testing/Operational Testing (DT/OT), discussed in paragraph 2.8.4.3, shall be considered and identified in all test plans and procedures. Results shall be included in individual test reports as appropriate.

2.8.4.1.2 Technical Evaluation (TECHEVAL)

The Contractor shall conduct a TECHEVAL Test Readiness Review (TTRR) on the IDS and assets. Approval of the TTRR reports by the Government will result in a certification of readiness to commence IDS and individual asset TECHEVAL. The Contractor shall assist the Government to perform a TECHEVAL on the IDS and individual assets to ensure that all DT&E objectives and performance thresholds have been met. Successful completion of TECHEVAL will result in certification of the IDS or assets as ready to commence OT&E.

2.8.4.1.3 Asset Follow-On Developmental Test and Evaluation

Follow-on DT&E will be performed as required to address any changes which may result from other DT&E or OT&E findings.

2.8.4.1.4 Commercial and Non-Developmental Items (CANDI)

Sufficient testing must be conducted on CANDI assets, systems, equipment, components and their associated logistics systems to verify performance, operational effectiveness, operational suitability, and life cycle support (included but not limited to manufacturing source, vendor supply chain and emerging obsolescence issues) for the IDS application. CANDI shall require testing to ensure technical performance in the IDS mission environments and manufacturing process requirements have been achieved. CANDI that have hardware and/or software modifications for use in the IDS require DT&E to ensure effective operation of the desired system configuration. Successful integration of these items requires testing in the IDS mission environments, pre-production qualification testing, and hardware/software integration testing. The DT&E for CANDI assets, systems, equipment, components and their associated logistics systems shall be tailored to consider commercial testing and performance history and experience. Test plans submitted for commercial or non-developmental items shall include: T&E issues and criteria; a description of testing performed to date on the system, including test procedures followed, data and results achieved; production qualification test and quality conformance requirements; and acceptance test plans for the system and its components and their associated logistics systems. Unless specified otherwise, the Contractor shall be responsible for all CANDI asset certification, including but not limited to FAA, USCG, ABS, SOLAS, or MARPOL certification. Vendor test data and other assurances that the performance requirements are satisfied may be accepted as a substitute for inspection, analysis, demonstration, or test with Government approval.

2.8.4.1.5 Modeling and Simulation (M&S)

M&S may be applied to supplement actual IDS and asset DT&E. When applied, M&S shall predict and assist in the validation and verification of the results of actual DT&E. DT&E results will in turn assist in the validation, verification, and fidelity of the M&S. Use of models or simulations shall be identified in individual test plans, procedures and reports as appropriate. Every model or simulation employed in the DT&E program implemented as a stand-alone system or integrated with other model and simulation systems for distributed simulation, shall be accredited. Existing M&S accreditation shall be documented in individual test plans as appropriate. The Modeling and Simulation Resource Repository (MSRR) should be consulted to obtain information on existing models, simulations, object models, databases, data sets, and tools/utilities. The MSRR may be accessed at the web site <http://www.msrr.dmsomil/>. For new development/modification efforts, Contractor plans for M&S verification, validation, and accreditation shall be outlined in individual test plans as appropriate.

2.8.4.2 Operational Test and Evaluation (OT&E)

2.8.4.2.1 Early Operational Assessment (EOA)

An EOA, designated OT-I, will be performed to begin the evaluation of IDS operational effectiveness and operational suitability. EOA will be conducted under an integrated Government and Contractor team concept. The Contractor shall provide support as required.

2.8.4.2.2 Operational Assessment Analysis (OAA)

An OAA, designated OT-IIA, will be performed on the IDS and individual assets to assess operational effectiveness and operational suitability and evaluate critical operational issues. OAA will be conducted under an integrated Government and Contractor team concept. The Contractor shall provide support as required. The OAA reports will update the operational effectiveness and operational suitability assessment predicted during the EOA. Approval of the IDS and asset OAA reports by the Government will result in a certification of readiness to commence the IDS and asset OA.

2.8.4.2.3 Operational Assessment (OA)

IDS and asset OAs, designated OT-IIB, will be conducted under an integrated Contractor and Government team concept. OA execution will include side-by-side working arrangements of Government and Contractor personnel in functional areas. The test articles shall be production or representative of the intended production equipment and installed as is expected in the fleet. An IDS OA will be conducted to assess system operational effectiveness and suitability requirements and objectives, critical technical parameters, and critical operational issues. TEMP requirements, parameters, and issues shall be integrated into the IDS OA test plan. Tests will include total asset and end-to-end testing in the performance and completion of IDS missions to specified standards. This includes system upgrades and changes to correct deficiencies identified during DT&E and the OAA. The concept of combined IDS and asset Developmental Testing/Operational Testing (DT/OT), discussed in paragraph 2.8.4.3, shall be considered and identified in the IDS and asset OA test plans, procedures, and reports. The Contractor shall conduct operator and maintainer training, provide preliminary or final technical manuals, and participate as outlined in the IDS CONOPS. The Contractor may also conduct repairs, and provide spare parts, support equipment, and other logistics support as required. The OA reports will also update the operational effectiveness and suitability assessment performed during the OAA. Approval of the IDS and asset OA reports by the Government will result in a certification of readiness to commence IDS and asset Operational Evaluation (OPEVAL).

2.8.4.2.4 Operational Evaluation (OPEVAL)

OPEVALs of the IDS and individual assets, designated OT-IIC, will be performed by the Government to evaluate whether the IDS and assets continue to meet operational needs and effectiveness, continue tactics development, and evaluate performance in accordance with the IDS CONOPS. An OPEVAL Test Readiness Review (OTRR) will be performed on the IDS and assets. Approval of the OTRR reports by the Government will result in a certification of readiness to commence IDS and individual asset OPEVAL. The OPEVALs shall use threat or threat representative forces, targets, and threat countermeasures in completing the range of missions across the range of environments. Actual users shall operate and maintain the IDS and assets while simulating minimal, expected, and surge demand conditions. Contractor

participation shall be limited to functions identified in the CONOPS. The Contractor may also provide support for logistics systems not fully developed. Production or production representative articles shall be used for OPEVAL. The IDS and asset OPEVAL plans and procedures shall be prepared by the Contractor. The concept of combined IDS and asset Developmental Testing/Operational Testing (DT/OT), discussed in paragraph 2.8.4.3, shall be considered and identified in the IDS and asset OPEVAL test plans and procedures. Data collection, analyses, and reporting will be performed by the Government.

2.8.4.2.5 Follow-On Operational Test and Evaluation (FOT&E)

FOT&E of the IDS and individual assets, designated OT-III, will be performed by the Government as required to evaluate whether the IDS and assets continue to meet operational needs and effectiveness, continue tactics development, and evaluate performance in accordance with the IDS CONOPS. The FOT&E shall use threat or threat representative forces, targets, and threat countermeasures in completing the range of missions across the range of environments. Actual users shall operate and maintain the IDS and assets while simulating minimal, expected, and surge demand conditions. Contractor participation shall be limited to that outlined in the CONOPS. The Contractor may also provide support for logistics systems not fully developed. Production or production representative articles shall be used for FOT&E. The IDS and asset FOT&E plans and procedures shall be prepared by the Contractor. The concept of combined IDS and asset Developmental Testing/Operational Testing (DT/OT), discussed in paragraph 2.8.4.3, shall be considered and identified in the IDS and asset FOT&E plans and procedures. Data collection, analyses, and reporting will be performed by the Government.

2.8.4.2.6 Commercial and Non-Developmental Items (CANDI)

OT&E will be conducted on CANDI assets to verify hardware and hardware/software integration and interoperability with other IDS assets, systems, equipment, components and their associated logistics systems. The OT&E will also validate and refine: operating and cost data; reliability, maintainability, and availability characteristics; logistic support plans; and training requirements, doctrine, and tactics. The Contractor shall provide support to CANDI OT&E as required.

2.8.4.2.7 Modeling and Simulation (M&S)

M&S may be applied to supplement OT&E. When applied it shall include the simulation of the IDS and its assets, systems, equipment, components and their associated logistics systems in actual anticipated operational environments to emphasize system and subsystem optimization. Models or simulations employed during DT&E will require reaccreditation if modified or used in a new application domain. Contractor plans for obtaining model or simulation accreditation or reaccreditation, if required, shall be outlined in the EOA, OAA, OA, OPEVAL, and FOT&E plans.

2.8.4.3 Combined IDS and Asset Developmental Testing/Operational Testing (DT/OT)

The concept of combining developmental and operational testing shall be employed throughout the T&E Program to the maximum extent possible. The concept will ensure that both objectives

are met with the same resources and schedule. Air asset flight tests and surface asset trials during DT&E, for example, should be structured to share all data that is operationally realistic. Government and Contractor operational personnel shall participate in DT&E planning, monitor DT&E, and assess all relevant OT&E issues. Tests conducted during the OA and OPEVAL should allow for efficient data collection to assess systems, equipment, components and their associated logistics systems technical performance, and supplement DT&E testing. This strategy allows OT objectives to be assessed with DT land based testing which can then be supplemented with in-flight and at-sea events.

2.9 IDS PERFORMANCE/COST ANALYSIS

The Contractor shall conduct ongoing IDS system and asset level analyses of the tradeoffs and synergies amongst IDS design, operations, and support concepts and associated system costs and operational effectiveness. These analyses shall be centered around the Contractor's baseline IDS and excursions thereto described by the family of key products including the SPS (Attachment J-1), Asset Performance Specifications, the Integrated Support Plans, the C4ISR Architectures, the Concept of Operations, and the Implementation Plan. Such analyses will form the basis for proposing the introduction of new concepts into the IDS or removal of baseline concepts, refining key system and asset characteristics, implementation planning, and concept of operations to continually seek further opportunities to maximize operational effectiveness while minimizing total ownership cost.

2.9.1 OPERATIONAL EFFECTIVENESS

The Contractor shall implement an Operational Effectiveness Assessment Program to support Government evaluation of changing missions and/or additional requirements over the life of the IDS. The Contractor's Operational Effectiveness Program shall be used to ensure that the implementation plan, associated system characteristics, and any proposed modifications thereto address the actions required to ensure that IDS operational effectiveness remains at or above the legacy baseline mission performance level throughout the implementation and sustainment of the IDS.

The Government will supply the Contractor with a copy of the MarOpsSim model and initial training on its use. The Contractor may propose a different model for this purpose, but it must supply the Government or its agent for modeling and simulation a copy of the model (including source code), documentation, and initial training. Utilization of model(s) other than MarOpsSim shall be subject to Government approval. Through the life of the contract the Government will maintain configuration control of the model (MarOpsSim or approved alternative) and the Government's analysis and results shall be deemed superior in the event of discrepancies between Government and Contractor results. In the case of such discrepancies the Government and Contractor will work together to identify and resolve the nature and source of the discrepancy. Within 90 days of receipt of the MarOpsSim model and completion of initial training, or Government approval of alternative tools, the Contractor shall provide an initial baseline Operational Effectiveness Estimate for the IDS in its current state, at the end of the current implementation year and in its fully implemented state.

Prior to the Contractor's receipt of MarOpsSim or Government approval of an alternative, the Contractor shall provide initial baseline operational effectiveness data tables and CONOPS for the IDS and IDS assets, both new and legacy, as required to reflect the impact of Government-driven and other Government approved IDS configuration changes on the Contractor's Phase II IDS proposal operational effectiveness.

The Contractor shall prepare additional Operational Effectiveness Estimates as required to support trade-off decisions in selecting/making changes to the system CONOPS, asset capabilities, asset relocation, or other adaptations to the initial or subsequent system baselines established under this contract.

The Contractor shall prepare an annual operational effectiveness estimate for the prior year and end of the current year utilizing the approved modeling tools as well as actual Coast Guard Deepwater performance data.

2.9.2 TOTAL OWNERSHIP COST

The Contractor shall implement a Total Ownership Cost (TOC) Program to ensure that cost of ownership is considered throughout IDS and IDS asset concept technology development, system development and demonstration, production and deployment, operation & support and disposal, including legacy assets. When requested by the Government the Contractor shall prepare Total Ownership Cost Estimates to support trade-off decisions in selecting systems, equipment, components, and materials, system siting decisions, and other attributes for the system and assets under this contract including all orders. At a minimum the Contractor shall prepare an annual TOC estimate.

The Contractor shall establish total ownership cost estimating processes and procedures that include metrics and relationships for identifying the time phasing of cost effects of system attributes for each category of cost and for all phases of the life cycle of each asset in the IDS as outlined in the Modeling and Simulation Master Plan (MSMP), Attachment J-19. The total ownership cost estimate shall include the estimated annual cost by cost category for each year of each asset from contract award through disposal. The total ownership cost estimate for each asset shall include the estimated cost of Government-furnished items and Contractor-furnished items and shall separately identify the cost of these items within the total ownership cost estimate. Total ownership cost estimates shall be provided in constant FY 98 dollars unless otherwise agreed upon by the Government and the Contractor.

Throughout the IDS lifecycle the Contractor shall compare actual AC&I and OE cost data against TOC estimates to assess the quality and fidelity of their estimating methodologies and improve future TOC estimates.

2.9.3 CONCEPT OF OPERATIONS (CONOPS) PLAN

The Contractor shall develop and maintain a Concept of Operations (CONOPS) Plan reflecting the intended realistic operational utilization of the IDS and all of its components. [Detailed Asset CONOPS appendices shall be provided for each asset as ordered.] The IDS CONOPS Plan shall characterize the IDS system level design and propose IDS employment to meet project

requirements and respond to the mission demands specified throughout the implementation period. The operational constraints of IDS logistics support policy (e.g., maintenance and training schedules, personnel considerations) are to be incorporated into CONOPS development and implementation. The CONOPS Plan shall address, at a minimum, asset availability scheduling and the operational logic to utilize the assets including command structure, operational patrol areas, mission prosecution and asset/capability interaction. Further amplification of CONOPS content and format is contained in Appendix D of the MSMP, Attachment J-19. [Asset CONOPS shall contain specific linkages between system level CONOPS and asset/system ISPs, as well as providing the operational commander with asset operating profiles and capabilities, operational constraints, operational interfaces, and mission unique summaries. The asset specific CONOPS shall contain Tactical Manual-like information and a Required Operational Capabilities/Projected Operational Environments (ROC/POE) for doctrine and force planning development. Specific discussion of how the asset contributes to the Surveillance, Detection, Classification, Identification, Prosecution process and recommendations for policy and/or cultural changes that are required in order to optimize asset effectiveness shall also be included.]

2.9.4 IMPLEMENTATION PLAN

The Contractor shall maintain the Implementation Plan. Implementation plan impacts shall be identified and provided whenever IDS baseline revisions are proposed which impact the quantity, siting, timing or availability of any IDS asset or otherwise impacts the demand for Coast Guard personnel (e.g., support concept revisions). The Implementation Plan shall, at a minimum, include the following elements:

- (a) IDS Build-out Sequence – As a minimum, the sequence includes time phased depiction of: asset delivery, Initial Operational Capability (first attainment of the capability of the asset to approved specific characteristics, operated by a trained and equipped Coast Guard unit, effectively performing the required missions), and removal from the IDS. This applies to legacy modifications and upgrades, new assets, and new asset modifications and upgrades.
- (b) Siting Plan – Time phased depiction of where each operational or support asset is proposed to be sited.
- (c) Acquisition Cost Estimate for the IDS and each asset on a year by year basis
- (d) Production Plan Summary - Description of known manufacturing sites and facilities and known service providers for the construction, modification, lease, open-market purchase as appropriate for each IDS asset
- (e) Mission Performance Summary – Summary of performance impact assessment and actions taken to ensure that there will not be any degradation in mission performance during the implementation of IDS capabilities and the introduction, removal, or changeout of any asset from any Deepwater site.

2.10 TASK AND/OR DELIVERY ORDER PLANNING AND DEVELOPMENT

Based on the Implementation Plan (including approved changes) and not later than 6 months prior to the required order issue date for IMS milestone accomplishment, the Contractor shall commence detailed planning for each task and/or delivery order. Task and delivery order planning and development shall include conducting a Task and/or Delivery Order Scoping Meeting, draft task and/or delivery order and work plan preparation, and successful completion of a Readiness Review as described below. The initial task or delivery order planning activity for an asset shall be conducted from this IDS Systems Integration and Management scope of work. [Subsequent asset task and delivery order planning shall be conducted within the scope of preceding phase asset task or delivery orders.]

2.10.1 TASK AND/OR DELIVERY ORDER SCOPING MEETING

No later than 6 months prior to the planned issuance of each task or delivery order in accordance with the Contractor's Implementation Plan, a scoping meeting between the Contractor and the Government shall take place to address the general scope, objectives, and timeline for task or delivery order planning. An agenda shall be prepared by the Contractor and shall include but not be limited to the following:

- (a) Review cost /performance basis for order issue;
- (b) Relationship with other ongoing or planned task or delivery orders;
- (c) Impact of external factors such as funding, mission and or demand changes;
- (d) Technology opportunities/maturity and user needs;
- (e) EVMS metrics and targets for the task or delivery order;
- (f) Task or delivery order data requirements; and
- (g) Incentive metrics and plans.

2.10.2 DRAFT TASK AND/OR DELIVERY ORDER AND WORK PLAN PREPARATION

Based on the results of the Task and/or Delivery Order Scoping Meeting, the Contractor shall prepare and/or update a proposed Task and/or Delivery Order Statement of Work and Work Plan Proposal no later than 90 days prior to the planned issuance of each task and/or delivery order in accordance with the Contractor's Implementation Plan, to include the elements outlined below.

2.10.2.1 Executive Summary

The proposed order shall include an executive summary that provides an overview of the proposed task and/or delivery order, highlighting salient features such as order objectives, technical approach, management, schedules, and risk. This summary shall also specifically identify the role of subcontractors who will perform the actual work if other than the Contractor.

2.10.2.2 Task and/or Delivery Order Statement of Work (SOW)

As required, the Contractor shall develop and submit a proposed task or delivery order SOW(s) for Government review and approval by tailoring the appropriate Statement of Objectives (SOO) (attachments J-8 through J-11). These SOOs outline the objectives and minimal requirements

for task and/or delivery order SOW development. These minimal requirements must be expanded and augmented to define the complete work effort required to achieve the stated objectives and the performance specified in the SPS, Surface and Air Performance Specifications, C4ISR Architectures, C4ISR Asset and Software Performance Specifications and Integrated Support Plans. The SOW(s) shall contain a detailed description of all tasks to be performed, and detailed technical and programmatic phase completion criteria and readiness review criteria for progression to following phases. Detailed logistics tasks for each SOW shall be built upon the framework of the Logistics Requirements Matrix, Attachment J-20. The Contractor shall propose additions, deletions, and modifications for the activities in this matrix in accordance with their IDS and Asset ISPs, CONOPS, IMS/IMP, Implementation Plan and unique production capabilities or processes. The SOW(s) shall identify the level of detail and when the work associated with each requirement of Attachment J-20 will be performed. A template to be used in structuring the SOW(s) is provided as Attachment J-32. In addition to these requirements, the SOW shall include the following:

- (a) Applicable Documents: The Contractor shall provide a list of all documents cited in the proposed task and/or delivery order. This list should include all compliance and reference documents. The Contractor should cite the exact version and date of each document. The Contractor should include asset requirements, ISPs and test plans as compliance documents as appropriate.
- (b) Government Furnished Items: The Contractor shall provide a listing and description of all required Government Furnished Materials, Services, Equipment, Facilities, Property and Information required for execution of the SOW, including required availability dates, as outlined in previous work and formally agreed to by the Contracting Officer.

2.10.2.2.1 Data Deliverables List

Attachment J –12 provides guidance for developing and identifying data requirements in the form of Contract Data Requirements Lists (CDRLs) and Data Item Descriptions (DIDs). It also includes the minimum data required by the Government for various types of task and/or delivery orders. The Contractor shall tailor a CDRL for each proposed order. The Contractor shall provide DD 1423 forms with references to appropriately tailored Data Item Descriptions. Deliverable descriptions shall be defined and explained in sufficient detail to enable the Government to understand and evaluate the data being proposed and how the Contractor proposes to provide the data. The CDRL shall be provided as an attachment to the proposed task or delivery order.

2.10.2.2.2 Contractor Work Breakdown Structure (CWBS)

The Contractor shall provide a Task or Delivery Order CWBS that addresses the requirements of Section 2.1.5. The CWBS shall be consistent with the IDS CWBS, the IMP, the proposed task or delivery order SOW, and anticipated product physical hierarchy. The CWBS shall outline all work required to meet the order objectives and requirements. To the extent possible, it shall include the CWBS for subsequent related orders for planning purposes (e.g., following asset

construction for lead asset design and construction). The CWBS shall be provided as an attachment to the proposed task or delivery order.

2.10.2.3 Task and/or Delivery Order Work Plan Proposal

The Contractor shall provide a Task and/or Delivery Order combined management and technical proposal for execution of the proposed SOW, to include the following items.

2.10.2.3.1 Management Plan Proposal

The Contractor shall provide a Task or Delivery Order Management Plan that meets the requirements of Section 2.1.1. The Contractor shall describe how they will manage the execution of the task and/or delivery order, describing the process for facilitating Government insight through the IPPD environment and IPDE. The Contractor shall define incremental milestones that permit progress to be evaluated and demonstrated. The Contractor shall address critical processes for execution of the task and/or delivery order, which as a minimum should include:

- (a) Management
- (b) Schedule
- (c) Reviews and phase exit criteria
- (d) Government insight and Contractor reporting
- (e) Government Interface with Subcontractors producing end items

Management process and activity descriptions are to be defined and explained in sufficient detail to enable the Government to understand and evaluate the work being proposed and how the Contractor proposes to accomplish the work. The Contractor shall also describe the applicability of his EMVS system to the task and/or delivery order CWBS.

2.10.2.3.2 Integrated Master Schedule Proposal

The Contractor shall provide task and/or delivery order input to the Integrated Master Schedule that meets the requirements of Section 2.1.4.(f). Task and/or delivery order schedule information shall depict the detailed development, production, test, support and/or disposal milestones, events and activities, including all associated logistics tasks and CDRL data development associated with the task and/or delivery order. Event descriptions are to be defined and explained in sufficient detail to enable the Government to understand and evaluate the work being proposed and how the Contractor proposes to accomplish the work.

2.10.2.3.3 Technical Approach

The Contractor shall describe the technical approach to be used to achieve the objectives of the task or delivery order and the elements of the WBS, including all applicable Systems Engineering, Configuration Management, Technology Refreshment, Integrated Logistics Support, and Test and Evaluation requirements. Technical activity descriptions are to be defined

and explained in sufficient detail to enable the Government to understand and evaluate the work being proposed and how the Contractor proposes to accomplish the work.

2.10.3 TASK AND/OR DELIVERY ORDER READINESS REVIEWS

No later than 45 days prior to the planned issuance of each task and/or delivery order in accordance with the Contractor's Implementation Plan and preparation of proposed task and/or delivery orders, the Contractor shall conduct a Readiness Review. The readiness review will form the basis for the Government's reaffirmation of the continuation of efforts by the Contractor or determination of the need to pursue alternative directions. The Contractor shall demonstrate its total system readiness to proceed by addressing the following critical elements that together form the entrance criteria for task and/or delivery order issuance:

- (a) Satisfaction of Technical Exit Criteria – The Contractor shall demonstrate satisfaction of all technical objectives and risk reduction for the asset-related work effort that precedes the proposed task and/or delivery order.
- (b) Adequacy of proposed phase task and/or delivery order Planning – The Contractor shall demonstrate the adequacy of planning for the proposed task and/or delivery order through review of the proposed task and/or delivery order and presentation of anticipated risks and mitigation planning.
- (c) Integration Criteria – The Contractor shall demonstrate the successful accomplishment and readiness of all dependent tasks from other task and/or delivery orders (e.g., availability of dependent assets, readiness of logistics infrastructure), system-wide total ownership cost and operational effectiveness impact review, and sufficiency of resources to support proposed task and/or delivery order activity (including budget, personnel, legacy assets, etc.).

2.11 *CONTRACT PHASE-OUT AND TRANSITION PLANNING*

In order to prepare for the eventuality that the Government decides not to continue with all or selected portions of the Integrated Deepwater System contract, the Contractor shall conduct planning to allow for the smooth phase-out and transition of Deepwater design, production, support and/or disposal responsibilities and activities. In conducting phase-out and transition planning, the Contractor shall cooperate with the Government to establish the most effective method for contract phase-out and transition support to the Government and follow-on Contractor(s) (if applicable). The Contractor shall prepare a Contract Phase-Out and Transition Plan that documents the realistic and executable phase-out and transition methodology, consistent with best Government and commercial business practices that may be used to phase-out and transition the applicable information, tasks and services provided under this contract to the Government or a follow-on systems integrator with minimum disruption. At a minimum this plan shall address the following:

- (a) Phase-out and transition approach
- (b) Transfer of responsibilities
- (c) Schedule of activities that will ensure timely phase-out

- (d) Points of contact that will be available to assist the Government during phase-out and transition
- (e) Subcontractor and supplier identification and principal points of contact
- (f) Description of how access to facilities can be obtained by the Government and follow-on Contractor(s) if necessary
- (g) Estimated cost associated with execution of the plan